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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/610,722	07/06/2000	Suresh Krishna	1875.4310002	5437
28393 7590 01/23/2008 STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C. 1100 NEW YORK AVE., N.W. WASHINGTON, DC 20005			EXAMINER COLIN, CARL G	
			ART UNIT 2136	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/610,722

Applicant(s)

KRISHNA ET AL.

Examiner

Carl Colin

Art Unit

2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 46-70 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 46-70 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>see att.</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/30/2007 has been entered.

Response to Arguments

2. In communications filed on 10/30/2007, applicant has amended claims 46 and 64. The following claims 46-70 are presented for examination.

2.1 Applicant's arguments, pages 7-11 filed on 10/30/2007, with respect to the art rejection of claims 46-70 have been fully considered, but they are moot in view of a new ground of rejection. Applicant argues that the combination of Ellis and Ober does not teach the claimed limitation as amended because in Ober the encryption circuit and hash circuit operate on the same data packet and share the same context information. Examiner respectfully disagrees as the claim merely recites at least two of the plurality of security processing engines receiving security association for different packets; the packets may be interpreted broadly as being received sequentially, therefore, the combination of Ellis and Ober would meet the claim limitations. Upon further consideration, a new ground of rejection is made. The rejection of the dependent

Art Unit: 2136

claims not challenged by applicant can still be applied in this office action. It is noted that Applicant's failure to challenge the Examiner's official notice in the previous Office Actions is taken by the office to be admitted prior art. See MPEP § 2144.03.

Terminal Disclaimer

3. The terminal disclaimer filed on 10/30/2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application numbers 10/218,206 and 09/610,798 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 46-49, 54-57, 60, and 64-66 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 5,870,479 to **Feiken et al.**

Art Unit: 2136

As per claim 46, **Feiken et al** discloses a device comprising: an identification unit (classification module) in the device that determines security association information associated with a data flow between a source and destination (see column 3, line 65 through column 4, line 5); a plurality of processing units coupled to the identification unit that meets the recitation of a plurality of processing engines coupled to the classification module (see column 3, lines 59-65), each of the plurality of security processing engines configured to receive at least a portion of the security association information associated with a data packet in the plurality of data packets along with the corresponding data packet (see column 4, lines 7-25), wherein at least two of the plurality of security processing engines receive security association information for different packets (see column 4, lines 25-41); wherein the classification module (identification unit) is configured to provide at least a portion of the security association information associated with the data packets to the plurality of security processing engines (see column 3, line 65 through column 4, line 8); wherein the plurality of security processing engines are configured to process a plurality of the data packets in parallel (see column 4, lines 25-41).

As per claims 47-48, **Feiken et al** discloses the limitation of further comprising a memory in the identification unit for storing security association information of a data packet, information belonging to the channel, key and status information (see column 4, lines 1-13 and column 5, lines 17-21) that meets the recitation of a database including security association information wherein the database is local to the classification module, and wherein the database includes one or more entries wherein each entry defines information associated with one security association.

As per claim 49, **Feiken et al** discloses the limitation of wherein the database is located on the same chip as the classification module, for example (see column 5, lines 17-21).

As per claim 54, **Feiken et al** discloses using security association information in the data packets to perform cryptographic operation that meets the recitation of wherein the security association information includes protocol mode information, (see column 5, lines 37-60 and column 6, lines 9-13).

As per claim 55, **Feiken et al** discloses wherein the database (the organized information as disclosed in claims 47-48) is stored in memory.

As per claim 56, **Feiken et al** discloses wherein the memory is contact addressable memory (CAM) (see column 5, lines 17-21).

As per claim 57, **Feiken et al** discloses wherein the memory is random-access memory (see column 6, lines 49-52).

As per claim 60, **Feiken et al** discloses wherein the device is a network communication device (see column 3, lines 20-22).

As per claim 64, **Feiken et al** discloses a method for classifying data packets during security processing in a server (device) comprising: receiving in the device at least a portion of a header for each data packet in a plurality of data packets associated with a data flow between a source and destination (see column 3, line 65 through column 4, line 5); **Feiken et al** discloses each data packet in a plurality of data packets associated with a data flow between a source and destination (see column 1, lines 13-33); **Feiken et al** discloses determining security association information associated with each data packet in the plurality of data packets in the data flow, for example (see column 3, line 65 through column 4, line 5); **Feiken et al** discloses receiving at least a portion of the security association information associated with a data packet in the plurality of data packets along the with the corresponding data packet at each security processing engine in a plurality of security processing engines in the device (see column 4, lines 7-25), wherein at least two of the plurality of security processing engines receive security association information for different packets in the data flow (see column 4, lines 25-41) and processing the plurality of data packets in the data flow in parallel (see column 4, lines 25-41).

As per claim 65, **Feiken et al** discloses the limitation of wherein the step of determining security association information comprises accessing a database to determine security association information (see column 6, lines 9-13).

As per claim 66, **Feiken et al** discloses using one or more selectors to identify a security association information entry in the database (see column 7, lines 18-25).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 50-53, 58-59, and 61-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,870,479 to **Feiken et al** in view of US Patent 6,484,257 to **Ellis**.

As per claim 50, **Feiken et al** substantially discloses the claimed device of claim 46. **Feiken et al** is silent about the particular information included in the header. **Ellis** further discloses IPSec protocol for implementing security association information which meets the recitation of wherein the security association information includes a sequence number an anti-replay window and a lifetime of the security association, one of ordinary skill in the art would recognize these properties as part of IPSec security protocol information (see **Ellis**, column 3, lines 15-64). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the device of **Feiken et al** to determine IPSec security

Art Unit: 2136

protocol information as well known practice in the art to provide secure communications in processing data packets as suggested by **Ellis** (see column 3, lines 15-17).

As per claim 51, the references as combined above disclose the limitation of wherein the security association information further includes an encapsulating security payload (ESP) encryption algorithm identifier and one or more ESP encryption keys, for example (see **Ellis**, column 3, lines 15-64). This claim is also rejected on the same rationale as the rejection of claim 50 above.

As per claims 52-53, the references as combined above disclose the limitation of wherein the security association information further includes an (ESP) authentication algorithm identifier and one or more ESP authentication keys and an authentication header (AH) authentication algorithm identifier and one or more AH authentication keys, for example (see **Ellis**, column 3, lines 15-64). This claim is also rejected on the same rationale as the rejection of claim 50 above.

As per claims 58-59 and 61, **Feiken et al** substantially discloses the claimed device of claim 46. It is obvious to one of ordinary skill in the art that the invention as combined above can be implemented in different communication device such as router, firewall, or gateway device to provide routing table computations and network management (see **Ellis**, column 8, lines 33-36 and column 9, lines 29-43 and fig. 7).

Art Unit: 2136

As per claim 62, **Feiken et al** substantially discloses the claimed device of claim 46 and **Ellis** further discloses wherein the device is a server (see **Ellis**, column 8, lines 58-66). This claim is also rejected on the same rationale as the rejection of claim 50 above.

6. **Claims 67-70** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,870,479 to **Feiken et al** in view of US Patent 6,760,444 to **Leung**.

As per claim 67, **Feiken et al** substantially discloses the claimed method of claim 66. **Feiken et al** is silent about the particular selectors included in the header. **Leung** in an analogous art discloses wherein the step of determining security association information comprises accessing a database to determine security association information (see column 6, lines 13-28) and further comprises using one or more selectors to identify a security association information entry in the database wherein the one or more selectors include at least one of a destination IP address, a security protocol identifier and a security protocol identifier and a security parameter index, for example (see column 7, lines 25-37; column 3, lines 6-12). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of **Feiken et al** to use selectors to identify security association in the database because since a table contains one-to-many or many-to-many relationship of security information using an identifier would allow rapid retrieval of information since a secret key and other information may be associated with one identifier as suggested by **Leung**.

Art Unit: 2136

As per claims 68-69, the references as combined above disclose the limitation of wherein the one or more selectors include a destination IP address, a source IP address and a transport layer protocol and wherein one or more selectors further include a source port and a destination port (see **Leung**, column 7, lines 25-37 and column 9, line 52 through column 10, line 40) this is well-known in the art as included in IP header for performing IPsec processing and also disclosed in RFC 2401, "Security Architecture for IP" in Applicant's disclosure. Therefore, these claims are rejected on the same rationale as the rejection of claim 67 above.

As per claim 70, the references as combined above disclose updating or generating new security association in a database of the server to store security association information for the Home Agent that meets the recitation of wherein the step of determining security association information comprises if no security association information exists in the database associated with the packet, generating the security association information and storing the security association information in an entry in the database, for example (see **Leung**, column 7, line 50 through column 8, line 40). Therefore, this claim is rejected on the same rationale as the rejection of claim 67 above.

7. **Claim 63** is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,870,479 to **Feiken et al** in view of US Patent 6,708,273 to **Ober et al**.

As per claim 63, **Feiken et al** substantially discloses the claimed device of claim 46. **Feiken et al** does not explicitly disclose wherein the device is a network line card. **Ober et al** in

Art Unit: 2136

an analogous art teaches a cryptographic co-processor implemented on a standard chip having encryption and hash circuits and other circuits (see column 2, lines 32-65 and column 5, lines 25-48 and abstract) within the same device for processing cryptographic operations in parallel (see column 6, lines 4-12). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the device of **Feiken et al** into a device such as a network line card because it would provide flexibility to incorporate the features of the device into any network device capable of using a network line card. The motivation to do so is also given by **Ober et al** who teaches that the plurality of encryption engines make it possible to add security to various processing applications. Hardware such as encryption and hash circuits are provided and structured to work together to provide accelerated encryption/decryption capabilities as suggested by **Ober et al** (see column 2, lines 32-65).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl Colin whose telephone number is 571-272-3862. The examiner can normally be reached on Monday through Thursday, 8:00-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser G. Moazzami can be reached on 571-272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2136

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Carl Colin/

Carl Colin

Patent Examiner, A.U. 2136

January 20, 2008